

DEVELOPING A STRATEGY TO RESTRUCTURE ENTERPRISES OF THE ROCKET-AND-SPACE INDUSTRY

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Abstract

The article envisages a proprietary methodology to develop a strategy to restructure enterprises of the rocket-and-space industry that allows the existing corporate structures in the sector to continue reforming their functioning to increase the efficiency and competitiveness of the rocket-and-space technology at the world market. The methodology proposes the development approaches of the enterprises within the corporate entity corresponding to the current requirements.

Key words: rocket-and-space industry, restructuring, strategy of restructuring, corporate entity.

Introduction

The strategy of developing the rocket-and-space industry in Russia, several state and federal purpose-oriented programmes envisage shaping economical sustainability, competitive, diversified industry, achieving technological leadership and necessary presence of our country in space.

The tasks, determined by the strategy, require concentrating the efforts in different spheres of activities in the rocket-and-space industry. The complexity while solving the problems to overcome the existing problems in the industry and the administrative errors made in the processes of reforming enterprises in the rocket-and-space industry. (Belyakov G.P., Karacheva G.A., 2015).

The administrative changes in the reforming process resulted in partial problem solution. Currently there is a necessity in a new stage of further improving the industry structure, namely, the corporate restructuring the enterprises of the rocket-and-space industry. Realising a direction requires to develop a scientifically well-grounded approach to develop a strategy of restructuring enterprises in the rocket-and-space industry.

Notion of restructuring enterprises in the rocket-and-space industry

In 1990s, 2000s several enterprises experienced the restructuring problems. Practically, by that moment all enterprises had accustomed to survive under the circumstances of planned-distributing economy, this resulted in a complicated economic situation for the enterprises (Karlik A., 2000). Therefore, in that period the process of restructuring enterprises was under a great focus.

Not all enterprises could reform according to the market economy requirements. Serious measures to restructure enterprises became a necessity due to the enterprise bankruptcy, some measures of the state support that did not correspond to the expectations, and the increase in depreciation on fixed assets.

Restructuring used to be a general problem to practically all enterprises, and due to that fact the scientists paid attention to it (Balashov V.V., 2000, Mazur I.I., Shapiro V.D., 2001, Erohin D.V., Nifaeva O.V., 2007, Babich O.V., 2014, Strulnik M.M., 2015 and some others).

Taking into account the critical analysis of the notion “enterprise restructuring”, and the problems at the rocket-and-space industry (Belyakov G.P., Dmitrieva M.L., Karacheva G.A., 2017), while developing the corporate entities, the scientists propose the definition of the notion “restructuring the enterprises at the rocket-and-space industry”. According to the definition, it is result-oriented change of an organization economical model of enterprise functioning in the rocket-and-space industry, joined into a corporate entity, meaning the improvement of a management system, business process reengineering, rational distribution and using the resources to design and manufacture the rocket-and-space technologies of different purposes.

A specific feature of the proposed definition is changing an organization economical model of function of the developed integrated structures joined in the state corporation. Also the definition underlines a trend of the given changes to the solution of the earlier determined problems of the industry. Earlier events on restructuring the rocket-and-space industry assumed a transformation of its structure focused on joining technological and manufacturing parts of the industry into a unified manufacture-technological complex to perform efficient science-technical policy, develop a domestic competitive rocket-and-space technology, and promote Russian technology to the potential markets engaging the necessary resources for the purpose.

Generally, restructuring was focused on the distribution among the limited number of the integrated structures of the existing enterprises, the assets of which allowed such distribution. It meant solving a restructuring problem resulted in determining a rational quantity of the integrated structures and subsuming the existing enterprises to one of them. However, the main questions were not answered, though they deterred the restructure of the rocket-and-space industry, and decreased the efficiency of the integration. The integrated structures had to answer the questions to determine the strategic principles, separation of jurisdictions among a parent corporation and affiliated companies, development of an efficient organization structure, integration of business processes and management of changes.

The principles in restructuring enterprises in the rocket-and-space industry

To increase the efficiency of functioning the corporate entities, realizing the actions based on their changing organization economical functioning model, the authors define the principles to restructure the enterprises of the rocket-and-space industry according to the specific features of their functioning. The restructuring principles in the rocket-and-space industry are practical to divide into two groups.

The authors relate the general principles of restructuring enterprises to the first group; the enterprises comprise scientific and manufacturing units. For the second group the authors determine specific principles, reflecting specific features of the rocket-and-space industry as one of the leading industries of a defence complex of Russia.

The authors generalize and complement the general principles of restructuring (Korotrov E.M., 2009, Mitrohin D.V., 2006, Erohin D.V., Nifaeva O.V., 2007) that are distinctive for industrial enterprises and determining the main approaches to restructuring:

1. The principle of conceptual unity. Restructuring should contain the unified comprehensible terminology, occupation of all subdivisions and managers; it should be based on the common grounds (targets, stages, phases, functions) for the managing processes different in their economical contexts. The restructuring process is followed by developing efficient control mechanisms necessary at every restructuring stage. The principle coherence is in the requirement to make an informed decision

concerning the importance of restructuring taking into account the existing limitations and possible development scenarios.

2. The principle of interest balance of the corporate entity enterprises implies to perform restructuring following the interests of enterprises – participants of corporate entity, that allows to optimize their participation in the unified processing chain due to the technological capability of production and the prospects to improve the production process.

3. The principle of restructuring efficiency means the results of restructuring is an increase in functioning efficiency of some enterprises - participants of a corporate entity, increase in quality and decrease in product cost, increase in functioning a corporate entity in general.

4. The consistency principle assumes a choice of methods, purposes, tools of restructuring, depending on environment, the status of enterprises – participants of a corporate entity at the market. The principle allows to focus on the main points, estimate the connections, divide them into external and internal, understand the character as a whole part in an occasion and the display of a separate point in a different occasion.

5. The comprehensiveness principle implies restructuring transformation should penetrate in all functioning spheres of the enterprises – participants of a corporate entity.

6. The synergistic effect principle obtains a ground consisting of an increase in functioning efficiency as a result of enterprise integration, merging of enterprises into a single system or a corporate entity.

Considering the characteristics of the rocket-and-space industry, the authors have developed specific principles of restructuring the enterprises united into a corporate entity:

1. The principle of innovativeness and development of challenging technologies is based on the constant search and initiation of challenging changes of requirements, application of new technologies, usage of advanced production technologies, research and development in creating rival products and technologies, including basic and critical ones, realization of projects of technological modernization of enterprises. All activities the corporate entity performs in the internal and external environment need to be improved systematically and continuously: products, production processes, marketing, maintenance, technology, personnel training, and information use. Developing challenging technologies implies application of the up-to-date manufacturing, scientific, space technologies of domestic and world level.

2. The principle of business-process optimization at the level of the corporate entity means a special type of integration of all business, social-psychological, organization-economical relations; the principle uncovers common factors forming corporate entities (particularly, their management systems). The principle is demonstrated by industry specific differentiation, localization of R&D, manufacture and realization of rocket and space technology lifecycle, following the optimal terms of the start and finish of restructuring process considering the stage of development cycle of a corporate entity, in-house outsourcing, division and cooperation of labour. The rocket-and-space products can become competitive at the world space market due to developing the uniform requirements to management and production organization by creating a unified corporate policy in the sphere of quality management.

3. The principle of reengineering business processes of enterprises in a corporate entity assumes to determine the main enterprise business processes and their revolutionary change for efficient corporate entity performance. Restructuring should contribute to increase in adaptability of enterprises of the corporate entity to the changing conditions of internal and external environment under the elevated uncertainty conditions.

4. The principle of personnel retention and development means training and retention of the corporate entity staff, cooperation of the industry enterprises with universities to train future personnel for the defence industry, increase in the professionalism level and enterprise staff retraining.

5. The principle of production diversification involves development and production release at the available capacities due to commercialization of the relevant advanced technologies.

6. The principle is focused on public interest and government defence order performance relative to funding allocation; the principle means timely government defence order execution following the requirements to the quality and reliability of the rocket-and-space technology of different purposes. The principle anticipates the state secret adherence while using the advanced technologies to preserve the exclusive rights to intellectual properties and the necessity of punctual federal budgeting to pay the state contract, since a delay in payment results in contract extension.

The strategy forming methodology to restructure enterprises in the rocket-and-space industry

The result of restructuring the enterprises in the rocket-and-space industry is to establish new business relationships relevant to external and internal environment in the process of production operation. To solve the problem the authors have developed a strategy forming methodology to restructure the enterprises in the corporate structure in the rocket-and-space industry regarding the current conditions (figure 1).

Therefore, it is rational to emphasize the first stage of forming a strategy to restructure certain factors influencing the restructuring of the enterprises at the rocket-and-space industry. Under the current rapidly changing conditions of the market economy, the corporate entities in the rocket-and-space industry need to adjust their performance taking into account the external environment requirements to preserve the product competitive ability at the world space market. It is caused by the changes of the external environment factors and can result in a certain unbalance between a corporate entity and the environment, and result in the necessity of its customization. Therefore, the corporate entity should timely respond to the changes of the environment.

The second stage involves the determination of enterprise localization in a corporate structure; it implies stating their functions within the process of designing and manufacturing rocket-and-space technology of different purposes.

The third stage requires performing a comprehensive diagnostics of problematic fields of the enterprise cooperation in a corporate entity. The comprehensive diagnostics results in situation analysis of a business system; the estimation coherence of internal connections among the enterprise structures and business processes; it highlights the problems of enterprise coherence to the market conditions and the adopted strategy of the corporate entity development; it determines the key influencing factors. Further, a comprehensive economical analysis of business and financial performance is performed while the enterprise is diagnosed; the process results in a viable management decision regarding the efficiency of the corporate entity functioning; a restructuring concept and purpose are specified.

Due to the determined problematic fields of enterprise cooperation, the fourth stage determines the approaches of business process optimization at the level of the corporate entity of the rocket-and-space enterprise: developing centres of professional competences; R&D centres; in-house outsourcing; reorganizing the dual production; developing cooperation and specialization.

The programme “Training and retraining qualified personnel for companies of the defence industry complex in 2014-2020” states the creation of professional competence centres. Realising the planned actions will increase the efficiency of performing the state plan of training specialists for the enterprises of the rocket-and-space industry; it will adjust the university graduate qualification to the current requirements (Ivanov A.V., Kuznetsov O.V., 2015).

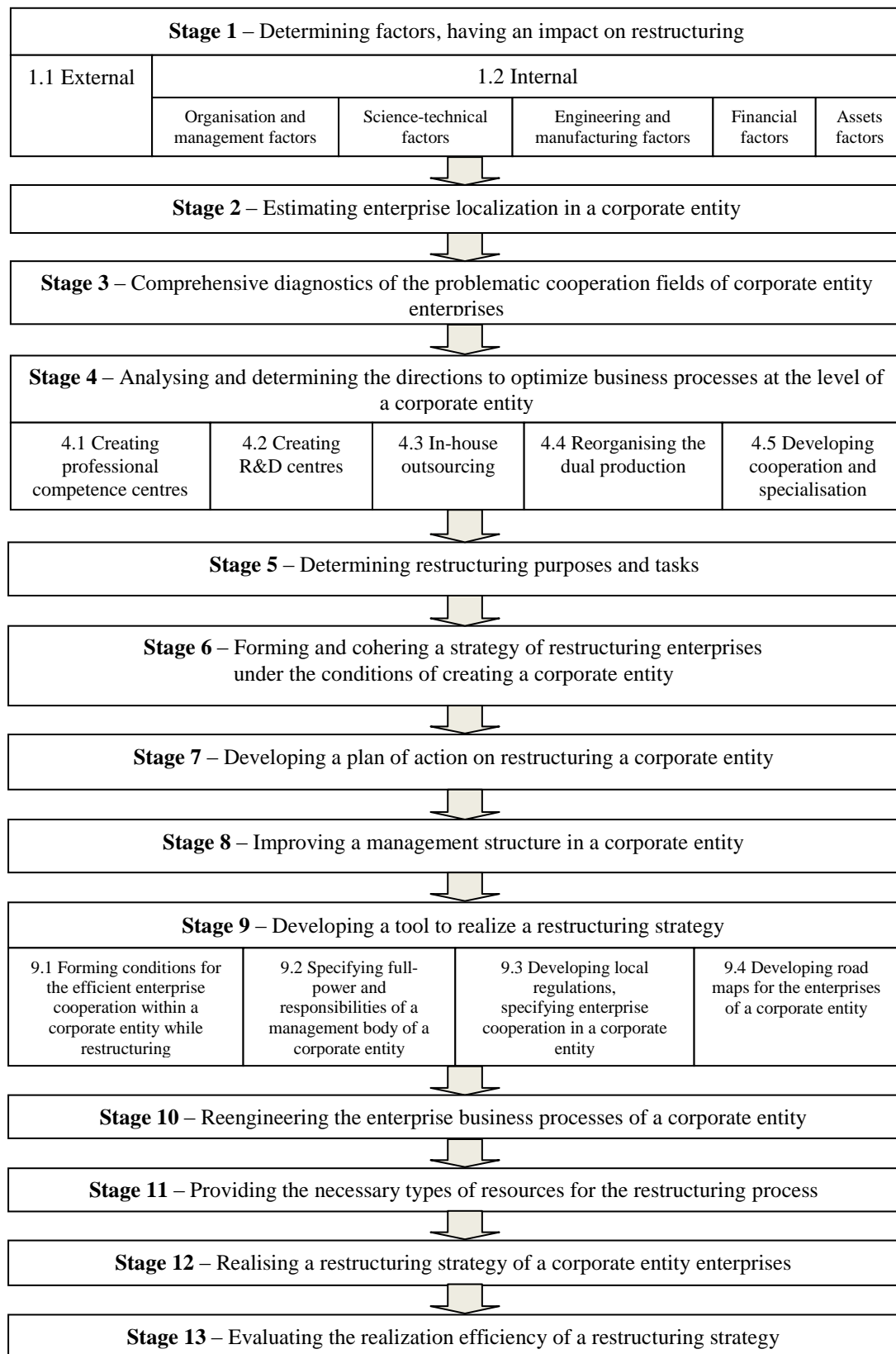


Fig. 1. Strategy forming methodology to restructure enterprises
at the rocket-and-space industry

The main assignments of the professional competence centres consist of gathering, formalizing and distributing the best practices to the enterprises of the corporate entity, developing a unified technological platform, organizing training and retraining highly qualified managing, manufacturing and scientific personnel for the rocket-and-space industry. The professional competence centres define and describe the most general processes for distributing information among the enterprise subdivisions; the centres develop technical recommendations and standards of their usage, and also the programmes to manage the changes in the integration process.

Creating R&D centres is necessary to manage research and developments efficiently at the corporate entities. If R&D centres are adequately organized, a corporate entity of the rocket-and-space industry can obtain substantial advantages such as reducing time to launch pioneer products to the market, improving the qualitative characteristics of the rocket-and-space technology, reducing costs to develop innovations (Fiyaksel' E.A., Ermakova E.A., 2012). To be the leaders at the world space market, the enterprises of the rocket-and-space industry, participating in the corporate entity, should be active in R&D at the world level, they need to be full-fledged players at the world space market.

In-house outsourcing implies the transfer of certain assignments, functions or processes to an external company, if they are not a part of main function of the company. Outsourcing is also restructuring types of the company functions followed by reforming the company structure, corporate and daily management, changing asset and personnel structure (Zhdanov A.Yu., 2009). The authors add new context to this definition. According to the authors' opinion, the in-house outsourcing means restructuring of function types of corporate entity enterprises of the rocket-and-space industry, followed by the transfer of certain business processes, manufacturing functions, incidental assets to the corporate enterprises, performing support functions.

Reorganising the dual production is necessary for the majority of Russian enterprises of the rocket-and-space industry such as machine-building plants, obtaining a configuration of "subsistence production" with the total cycle of production. Organising the manufacture of the rocket-and-space technology in a corporate entity in a single processor chain will result in excluding the dual repeated production, reducing costs of performing the government defence order by design and engineering standardization, rational labour division, removing excess capacities out of the military production and idle assets out of turnover.

Developing cooperation and specialization means integrating the enterprises of the corporate entity to manufacture the rocket-and-space technology of special purpose, competitive at the world space market, and also concentrating the manufacture of certain products at the enterprises of the corporate entities and their subdivisions. Further at the fifth stage of developing the restructuring strategy, due to the targets and assignments of the corporate entity, the enterprise place in the entity, its potential, it is significant to define the targets and assignments for restructuring to eliminate bottlenecks and deficiencies in enterprise functioning within the corporate entity.

The sixth stage implicates the formation and coherence of the restructuring strategy of the enterprises at the rocket-and-space industry under the conditions of developing a corporate entity that results in creating a plan of action in restructuring a corporate entity (the seventh stage). The restructuring programme for every enterprise is individual, it depends on the choice of a direction, type and target objects. The programme implies the development of an action list resulting in increase of corporate entity performance. The restructuring programme should contain the information about its realization terms and personalities, responsible for providing the process of restructuring. The programme obligatory includes a budget to realize the actions in restructuring and the expected results.

Having developed the actions in restructuring enterprises of the corporate entity at the rocket-and-space industry and improving the structure of its management (the eighth stage), it is necessary to develop a mechanism to realize the restructuring strategy (the ninth stage), providing: the formation of the conditions for the efficient cooperation of enterprises within a corporate entity while restructuring; determination of powers and responsibilities of the managing body at the corporate entity; development of local regularities, specifying the cooperation of enterprises within a corporate

entity and enterprises' road maps, that reflect step-by-step scenario of restructuring the enterprise. Every enterprise develops its road maps depending on its place in the corporate entity after restructuring. Corporate entities can develop a mechanism to realize a strategy in all directions simultaneously and in some constituents according to the necessity, potential of the enterprises involved into a corporate entity.

Having developed a mechanism of realizing the restructuring strategy, the business processes are reengineered at the enterprises of the corporate entity (the tenth stage). The main enterprise business-processes are determined and their revolutionary changes for the efficient functioning of the corporate entity and the restructuring process is provided by all types of necessary resources (the eleventh stage).

The twelfth stage provides realization of the restructuring strategy at the enterprises, during which the planned actions are realized. Realising the strategy should be relevant to the targets and assignments of restructuring a corporate entity and the development strategy of the rocket-and-space industry. The final stage evaluates the efficiency of the realized restructuring actions based on the chosen restructuring directions.

Results

Therefore, the methodology to develop a restructuring strategy can be applied at the enterprises of the rocket-and-space industry to increase the efficiency of their functioning, increase the competitiveness of their products at the world market of the rocket-and-space technology.

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